

The Tech

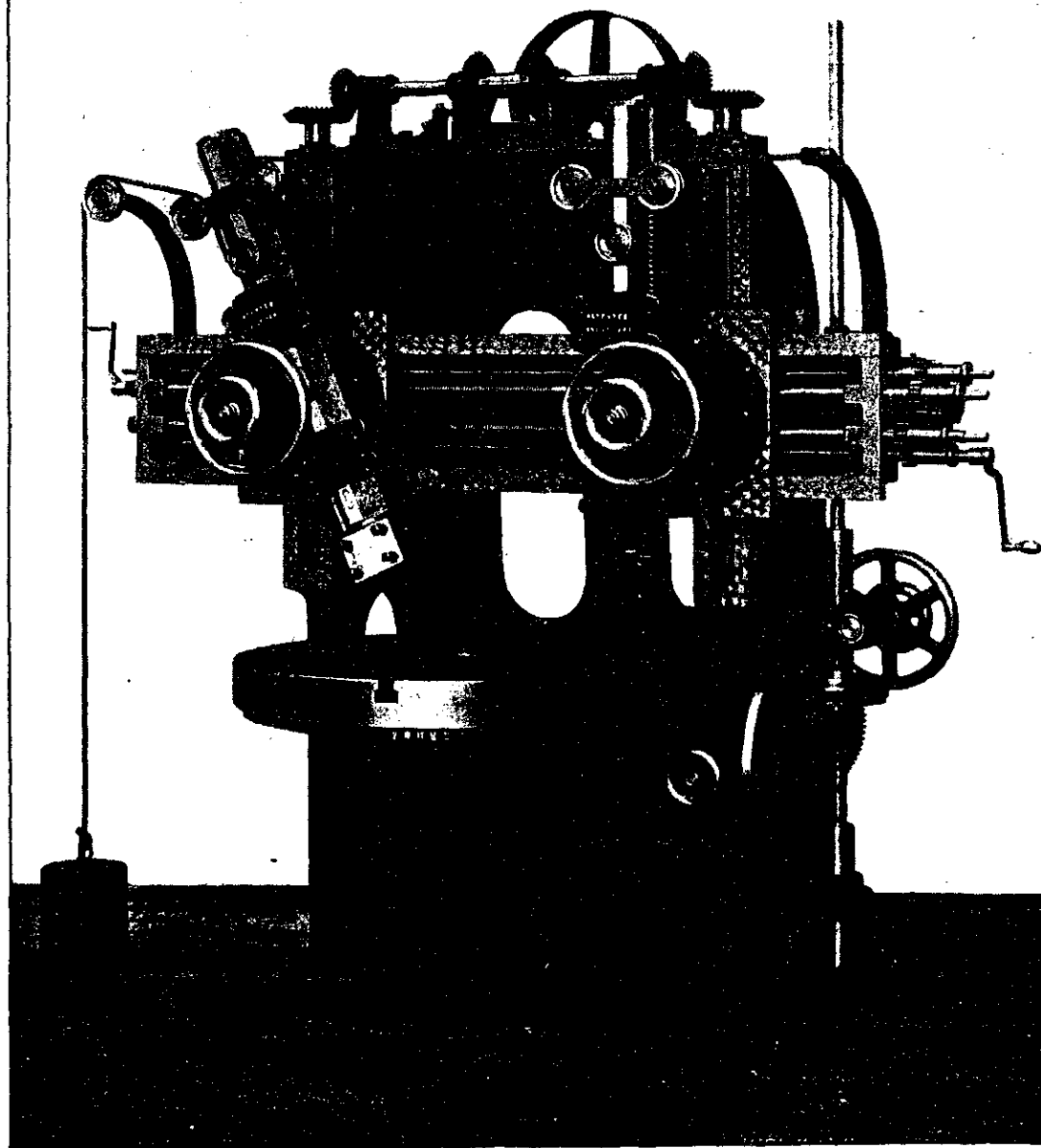


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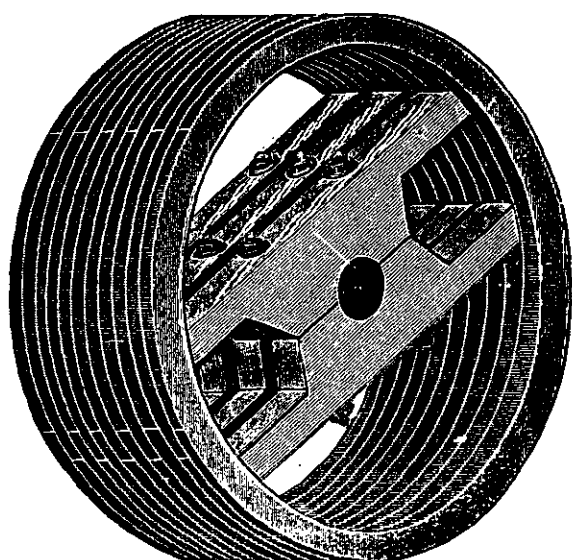
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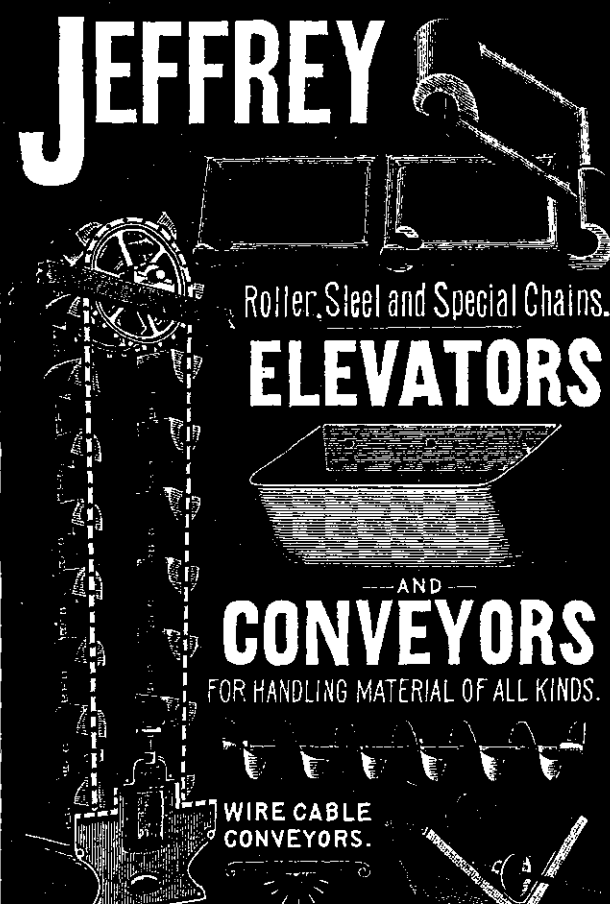
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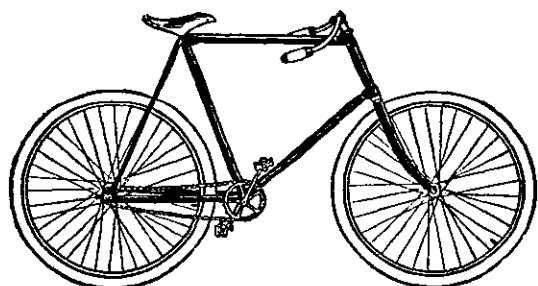


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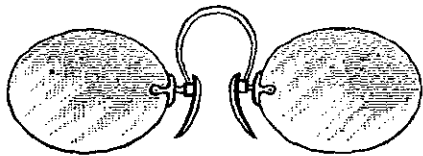
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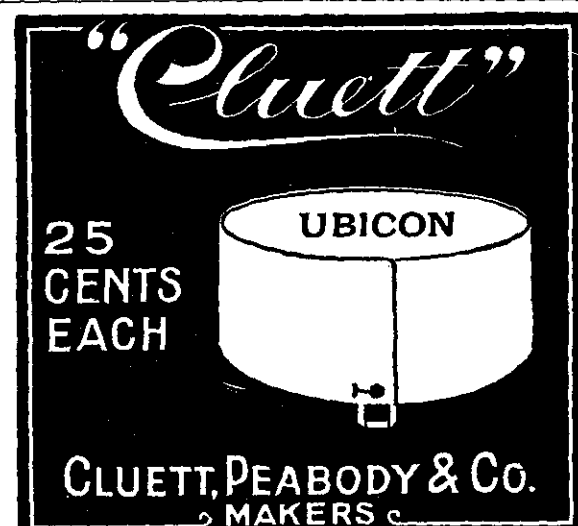
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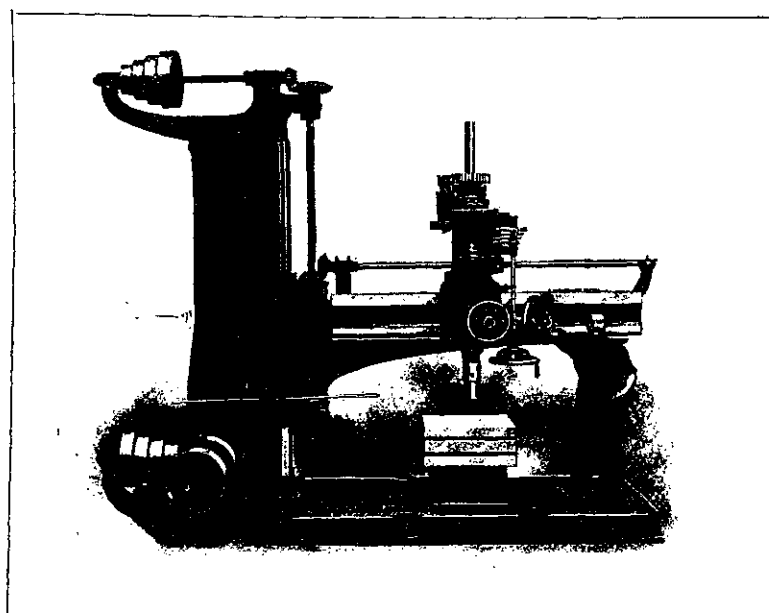
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THE TECH

VOL. XIX.

BOSTON, JUNE 5, 1900.

No. 30.

THE TECH

Published every Thursday, during the college year, by students of the Massachusetts Institute of Technology.

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For the benefit of students THE TECH will be pleased to answer all questions and obtain all possible information pertaining to any department of the College.

Contributions are requested from all undergraduates, alumni, and officers of instruction. No anonymous manuscript can be accepted.

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THE Class of Nineteen Hundred is about to take leave of its Alma Mater and add its members to the ranks of those whose energies are devoted to the development of the scientific and industrial problems of the day.

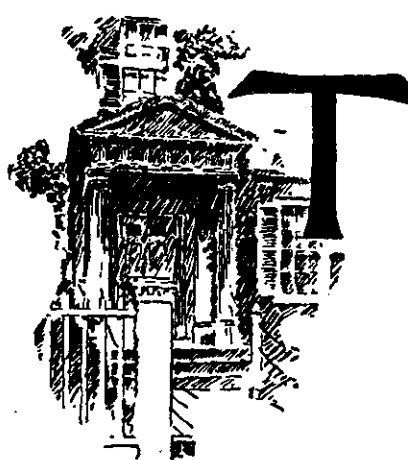
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haps the most important period in a college man's life. He has spent four years in preparing himself for his chosen work. The time has now come, however, when he must cease to be primarily a student, but must devote himself to applying the principles which he has learned. In so far as he has mastered the problems set before him in the class-room,

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Past experience has shown that Tech. men are especially well fitted in all respects for the battle with life, and, in bidding the graduating class farewell, THE TECH feels it can do no better than to wish them individually as great success as has followed our graduates in years before.



THE present number of THE TECH brings to a close one of the most successful years in its history. Although the board has been crippled by sickness the work has been carried on without a hitch.

To the Seniors on the board, this Class Day Number brings the realization that the literary work which they assumed voluntarily as a welcome relief from the routine of studies has at last come to an end. These men take with them the earnest wishes of THE TECH for their future success.

Reception at the Exchange Club.

The annual reception by the alumni to the graduating class was given on Friday evening, May 1st, at the Exchange Club. At seven o'clock the members of the graduating class, the alumni and guests began to assemble, and at nine o'clock, after the spread, President Miller of the Alumni Association, opened the speechmaking. He spoke briefly in welcome to the Class of 1900 and of the object of the work of the Association. He then introduced President Crafts who was warmly received. President Crafts spoke in an informal manner of the important events which have taken place during his administration, and considered the facilities for enlarged work which are now afforded by the recent purchase of land by the Institute. After speaking briefly on the financial side of Technology, he gracefully introduced President-elect Henry S. Pritchett who received a very cordial welcome. Dr. Pritchett said in part:

"I am here to-night, not in an official capacity, but as the latest member of the Class of 1900, and as such it is fitting to be modest and say nothing. But I want to say a few words to you. I come from one of the great engineering bureaus of the country, one of the oldest of government enterprises. There are carried on operations of the highest moment, and the work is so very interesting that a man would not leave unless great attractions were offered him.

"Any one knowing the Massachusetts Institute of Technology knows that it holds up the highest standard of technical education, for here it is necessary to learn one thing well. If there was ever any time when that was needed to be done it is now. Wisely or unwisely, we have come into possessions beyond the ocean where the building of railroads and canals and the development of the country will require the best efforts of American engineers."

Dr. Pritchett then paid a tribute to President Crafts, and continued: "I desire to be more to you alumni than merely president of the Institute. I desire to enter into personal relations with you. Accept me as a personal friend and give to me your personal help and advice. And I hope that as we

come to know each other you will welcome me not only because of your regard for Technology, but for your friendship for myself."

Following Dr. Pritchett, President Miller introduced Professor Robert H. Richards of the Faculty, who spoke of the results which had been accomplished during the administrations of the several Presidents of the Institute. Dr. Samuel J. Mixter of the class of '75 spoke in a reminiscent vein of life at the Institute while he was there. The last speaker was Mr. C. M. Leonard, President of the graduating class, who related a number of interesting anecdotes of members of the class. During the evening selections were rendered by the M. I. T. Glee Club.

The Baccalaureate Sermon.

The Baccalaureate Sermon was preached by the Rev. George Hodges, in Trinity Church, June 3rd.

And the Lord added to the Church daily such as should be saved. Acts 2: 47.

They stood where you stand, at the beginning. They had in their hearts the same strong desire which you have: they wanted to succeed.

It is true that they expressed it differently; they stated it in the phrase of the church rather than in the phrase of the street. What we call success, they called salvation. "What shall we do," they said, "to be saved?" But the difference is chiefly in the words. They had in their minds what you have in your minds today. For to be saved is to succeed supremely.

It is true that success commonly suggests something secular; we call a man successful who gets on in his business, who makes money or a name. And salvation, in common speech, suggests something spiritual: the saved man is he who is sure of going to heaven when he dies. But neither of these definitions is sufficient. *Salvation*, properly understood, is spiritual soundness; it means sanity and strength; it is the good health of the whole man. And it has to do with this present life. We are saved when we are delivered from our sins, and are strong in conflict

with temptation, and are open and receptive to all high influences, and live the life which befits a son of God. To be saved is not to be admitted through a gate into a garden, and thenceforth to look out between the palings at the dusty road. The essential thing is not where we are, but what we are. The heart of salvation is not a better place, but a better man. And that, you see, is the definition of all good *success*. That is what you want. In the new life for which you have been preparing and into which you are now entering, you will not be content to be chemists, or electricians, or engineers, or captains of industry; these are excellent callings, but they will not satisfy you. No; the supreme ambition which you have is to be a man; to be a sturdy, straightforward, erect, clear-eyed, right-minded man. To be less than this is to fail. It is to belong to the defective classes. Blind Tom, for example, was an extraordinary musician, but he was not a man, in any true sense; he was an idiot. In the same way, one may be a capital workman, scholar, architect, administrator, and yet not be a man. He may be defective in mind or in morals; he may be a machine or an animal. The essential quality of manhood is character. And to attain character is at the same time to succeed and to be saved. Here the two meet. Without character there can be neither salvation nor success.

Success, then, is not so much a commercial as a spiritual matter. It depends not on what we get, but on what we are. It is founded on character. And because character is so profoundly affected by religion, success and religion are vitally related. Thus it is that you mark this great transition out of the life of apprenticeship into the life of responsibility by a religious service: you ask for counsel at the lips of a minister of religion.

Let us remember what was said upon a like occasion, when the apostles were the spiritual advisers. It was on the Feast of Pentecost, whose anniversary is being kept today in the church. Men were stirred with a strong sense of discontent with themselves, and were pressing forward into a new and different way of living. The past they had thrust behind them; their faces are set, as yours are, towards the future. "What shall we do to be saved?" What shall we do that we may live aright, that we may the better draw near to the ideal, that we may the more

effectively serve our fellow men and please God? What shall we do to succeed? What shall we do that we may in the fullest sense make the most of ourselves?

What did they do? We read that the apostles told them to ally themselves with the Christian Society; and that, accordingly, they were added to the church. The Lord added to the church daily such as desired to be saved. The men were taught that if they wished to succeed, if they wished to grow in strength of character and in the spirit of service, they must be socially minded, they must take their place in the new fraternity of the brethren of the ideal life.

This is the Whit-Sunday lesson which I would bring out of that old time into this present. Let me state it with all frankness. There are many things which we desire of you, but the one of which I purpose to speak is this: we want you men, for your own sake and for the general good, to come to church. You will go back in a few days to your several homes, in various parishes. You are to be men of leading in your community. The minister will wait to see in what direction you will lead, whether you will help him or not. He may not say anything to you: the minister is somewhat reluctant to ask a man to come to his church; more reluctant, perhaps, than he ought to be. He may not ask you, but he will look at you as the Master looked at the rich young ruler in the gospel, with affection and with expectation. He wants you more than you can know. He notices your presence and your absence. The church may be full,—of women: thank God for their devotion, for their helpful enthusiasm, for their splendid maintenance of all good causes. But the minister will miss you, if you are not there. He will account all his other success as of no value if he does not succeed in winning and keeping you. Let me say that for him, since he is not likely to say it for himself. It makes a difference, such as I am sure you do not realize, whether or not you are in church.

Consider it in these two aspects: first, as it concerns the best interests of the individual; and secondly, as it concerns the service which he should render to the community.

It is characteristic of human nature that it needs times and seasons and appointed places. That which is best in us often waits for suggestions from without.

So that he who says: I can shape my character outside the church as well as in; I can minister by myself in my own way to my own life,—is altogether likely, after the first enthusiasm, to find himself neglecting that which he honestly intended to perform. Solitude, whether social or spiritual, is excellent for an hour or a day; but it is not the natural state of human beings. All experience shows that we need society. Thoreau spent but a year in his seclusion at Walden Pond. The hermits stayed longer and fared worse. It is hard enough, under the best conditions, to live the life which is appropriate to a member of the family of God. He who tries to live apart from the rest of the family adds to the difficulties of which there are enough already. While he who resolutely, week by week, keeps in vital relation with the religious institution, and hears the word of exhortation and instruction, and takes upon his life the sentence of prayer and praise, is thereby helped and strengthened. He sees ideals clearer, and meets temptations better, and thinks higher thoughts. Is there any doubt about it? Is it not good philosophy? Is it not in accord with universal human nature?

The question, then, is how to be of service to the neighbor? And the answer is that every man may be of service in two ways: by his good example, and by his alliance with the great beneficial forces. For both these kinds of service there is an especial opportunity every Sunday morning.

For he who identifies himself with the Christian Church sets a good example. That is plain enough. He himself may be in much or little need of what the church can give him, but somebody else, who is affected by his example, needs the church and needs it imperatively. Somebody there is whose destiny may depend upon what he gets at church next Sunday. There he may hear a word in service or in sermon, or in the silence of his own soul, which will make an everlasting difference with him. As he turns the corner to the church, he will change the whole direction of his life. But he waits for you. He waits to see what turn you make, and when you pass by without going in, he follows in your steps. You say to him as plain as words, "The church is not worth while;" and he is obedient to that advice. Every citizen who stays at home on Sunday, forsaking the institution to live his individual life, hangs out a flag at his front door, inscribed, "The church is not worth while." And the wider his influence in the

community, the bigger the letters in which that legend is set forth. Every Sunday, every man in the neighborhood has a definite opportunity to serve his fellow men by his good example.

Here is the Christian Church with all its manifold shortcomings, with its weaknesses and sins, with its grievous divisions and contentions, with its neglected opportunities,—what other agency even remotely approaches it in its social possibilities or in its spiritual results. Here may the man of affairs consecrate his executive strength to the best service of his fellow man, to the marshalling of the hosts of God against the armies of the devil. Here may the scholar bring his wisdom and his devout pursuit of truth into relation with the daily needs of men. Here may the young man bring his manhood, bring his courage and his hope, bring his high enthusiasm, and devote it to the holiest of missions, beginning the week as the knight began his quest, with his sword and shield laid down before the altar.

We must confess, indeed, that the church is not everywhere a young man's church. You may not feel at home in it. You may find that it is conservative when you desire to be progressive. Going out into your new life with large ideas, the church may seem to you to be occupied with petty interests. Concerned as you are in the whole range of human life, upon which you have looked from the academic heights, the church may seem remote and isolated and out of relation to the common day. Compel it then. Take it by storm. Do your best to make it what it ought to be.

Gentlemen of the Class of Nineteen Hundred, we cannot realize these ideals without you. They are worth realizing: that is plain. To make them effective in any community is to render a high service to humanity. A church into which men go to worship God, and out of which they come to serve their fellow men, is the best blessing that any neighborhood can have. Whether there shall be such a church in your neighborhood depends in large measure upon you. You desire to succeed. You look out today into the future praying for that, planning for that. And success means the culture of your character and the best use of your power. You need the Church even more than the church needs you. For your sake, for your brethren's sake, you need to be added to the church.

Class Day.

The exercises of Class Day were held as usual in Huntington Hall, and at two o'clock a large audience waited for the ceremonies to open. The Class Day officers were as follows: First Marshal, Percy Rolph Ziegler; Second Marshal, Walter Louis Rapp; Third Marshal, Marcy Leavensworth Sperry; President of 1900, Clifford Milton Leonard; Historian, Herbert Milton MacMasters; Statistician, Newitt Jackson Neall; Prophet, Frederick Hosmer Cooke; Poet, Herbert Holmes Howe; Orator, Charles Van Merrick.

President Leonard said:—

LADIES AND GENTLEMEN:—It is with deepest pleasure that I extend to you today the hearty welcome of our class of 1900. We who have toiled together through the four years of our course are more than repaid by the opportunity of having you as our guests. And I hope that the memory of this day will remain with you always, as one of the most enjoyable afternoons of your life.

We are glad to have with us today the Faculty and many beloved instructors, and I hope that our Class Day will prove as interesting and amusing to them as their many lectures have been instructive to us. They, it is, who have led us through the mazes of learning, and surely they will take pride in us today, in this, the summit of our college toils. No longer can we go to them for help to perceive some uncertain truth—no longer can we in their recitations stand shoulder to shoulder plodding along. And if we are to march alone, let us strike out with a will and stride with a stout heart. When I turn to welcome, in the name of the class, the parents of my classmates, words are inadequate to express my feelings. It is to them, through their loving interest and unselfishness, that we owe our education. And today, we will take pleasure in knowing the mothers and the fathers. To the young ladies present, this afternoon, the captivating part of our audience, I would say that you have 1900's warmest welcome. I am sure that many of you are not strangers in Technology, at least not in the spirit, for your images are undoubtedly constantly in the minds of many a son of 1900. I would like to thank you for your presence at many of the past Class projects and hope

that your interest in us, which has proved such an incentive in the past, will be with us in the future.

I would also like to thank the many other friends of the Class, here today, for the pleasure and honor which they give us, by their presence. Some of you have visited us when we were busy in the drawing rooms, shops, or laboratories, and have seen something of our work, but today we want to show you everything; the desk that we have drawn at; the machine we have tested; our tables and experiments in the laboratory. We want you to understand us in our work; we want you to appreciate the broad educational spirit of the Institute; we want you to understand our College in its real value. Yet, we first want you to enjoy yourselves, as this is a day of pleasure.

Classmates, we have been Freshmen, Sophomores, and Juniors; we have successfully fought the battles of our Class; and today as Seniors are in complete control of the Institute. In a certain course in English Literature, we were told that a modern educated man is not one who has all knowledge at his finger tips, but one who knows where to find any information that he may wish to look up, and yet has at his command the rough ground work of all. And I think that is our position; we are not a finished product, but still may consider ourselves well-educated engineers, with all the fundamental principles at our command, knowing that at any moment we may be called upon to study, more fully, some branch of our profession. I hope that we have taken as examples the noble presidents and founders of our college, and that we have imbibed the principles, so ably taught by them, of educating every faculty in its true proportion. Ever remembering our beautiful motto,—“*Mens et Manus*,”—mind and hand.

Tomorrow when we join the immortal Alumni, we sever the tie that brought many of us together for the first time. Then it is that we will look backward and ask ourselves: Have we made the most of our opportunities? Have we done all that we ought to have done? Let us hope that we have. On top of it all will come our partings. A few hearty handshakes, a “Good luck old man,” and our companions have gone. We have found many life-long friendships in our short four years, and yet how different our unexpressive, manlike friendship is, from any other. We nickname each other and our endearments are often

a hearty slap on the shoulder, abusive slang, or perhaps some boyish joke. But there is the true feeling under it all, and if, in time, we are scattered around the world, we will always be loyal sons of 1900, and have ever ready a cheer and a word of praise for our Alma Mater.

I have spoken to you somewhat about the Class as a whole, but have said nothing about any of its individuals, but, as is customary in lectures, I have a few examples on the platform—all worthy specimens of our genus. I will, however, speak of one individual who has ever placed his energy unselfishly at the service of the Class, and whom we have elected to be our First Marshal, the highest honor the Class can bestow. I take great pleasure in introducing to you—Mr. Percy Rolfe Ziegler.

Mr. Ziegler:—

Friends and Classmates:—It is my privilege this afternoon to welcome you to the Class Day Exercises of Nineteen Hundred. To us, the class, it is a day both of gladness and sorrow. A day of gladness because we have completed those four years of hard work and have accomplished that which we set out to accomplish. A day of sorrow because the time has come when we can only bid Godspeed to those many and close friends whom we must now part with, perhaps forever, as each sets out to meet and overcome the problems of his future.

From the time of its birth when all were discussing the question of what should be the name of the class of nineteen hundred, down to the present, nineteen hundred has been a marked class in other ways than in getting C's, P's and possibly F's. We all know, for how could we help it, what Pres. Eliot's opinion is regarding the time of advent of the new century, and that Pres. Hazard of Wellesley, alias Technology Annex disagrees with him, but I think all will agree in saying that nineteen hundred is in every way the culmination of the classes of the nineteenth century, THE one of a hundred.

It will be for us also as we enter on our life work at the beginning of the next century to connect the old and the new, and bring to the development of the twentieth century all the wisdom and knowledge of the nineteenth. This is the reason that everyone predicts such marvellous attainments in the next fifty years, and I am sure you will acknowledge that no

one is so capable of accomplishing these feats as the class of nineteen hundred.

However I will not take up your time with what you may think idle boasting, for, like the introduction to a book, which so many skip entirely an introducers chief charm is brevity.

I feel sure that you will wish to have other evidence than my own, to become convinced of the greatness of this grand class. Let me assure first, however, that it is with great effort that this evidence will be given owing to that modesty which as you know becomes true greatness. Since we are to give this evidence we will be thorough and go back to the very beginning to permit me to introduce to you Mr. Herbert Milton MacMasters.

Mr. MacMasters:—

MR. MARSHAL, MR. PRESIDENT, FRIENDS AND FELLOW-CLASSMATES. "History is God's providence in human affairs," says Webster.

This history is selected from an apparently confused mass of acts, occurrences, dates and details; it has, for its chief end, the record of facts and incidents connected with the history, past and passing, of this class. There is so much to say on this occasion, that, like Gen. Wolfe, I have but a "choice of difficulties"; there are so many thoughts and feelings crowding upon a man's mind and soul, that it is difficult to choose—and when the choice *has* been made to end.

It is a serious day when a child leaves home for college; it is serious for the child, serious for the home, and still more serious, perhaps, for the college; the boy has reached the first great turning point in his life's career. College is thought to be the worst of wicked places, fraught with many temptations, but *this* class, of course, has escaped its vices with name and reputation clear.

With this brief introduction I pass at once to the incidents of the several years.

With Warren we might exclaim—

"What growing rapture lights the youngster's phiz, Who, first from school-house loose, a Freshman is."

One bright, sunny day of September, '96, there started upon a journey, a jolly, happy, indifferent lot of boys; they had bidden good-bye to their homes and friends because they intended to enter a new world; they aimed to leave behind all the manners,

customs and habits of the home in which they had lived; they came "to be educated within an inch of their lives." Our first duty was to report in Rogers corridor; there we received innumerable cards and papers, the most startling ones stating that the term bills were due not later than October 10th and that chapel exercises would be held daily from 9 to 4 across the street.

The next event of any importance, was the address of our President, Gen. Walker. Simple though it was, it won the heart of every man present, and we came away convinced that this was a place as he said, "for men to work and not for boys to play." Little then did we dream that within three months we should lose that magnificent and much beloved man.

At our first class meeting we were able, with the help of a few Juniors and Davenport, our august impresario, to defeat the Sophomores at every point. Here, friends and fellow classmates, originated this crowd of politicians, wire-pullers and Tammanyites which you see seated before you today. The first athletic meet brought out a few of the class athletes; our classmate, with his hoary virgin growth of tubular, semi-elongated filaments, winning the two-mile run by a hair.

The cane rush was remarkable in many respects. Davenport was magnanimous enough to pay the paint bill of \$1.39 out of his personal funds. He afterward became a candidate for treasurer, but fearing lest the bill might come up for collection, the class unanimously elected his opponent. It is needless to relate that awful struggle for class supremacy, or to enumerate the men who came home in barrels; suffice it to say that the Freshmen had fought through the bloodiest, if not the noblest struggle for liberty on record.

The second term opened with a wave of baseball and competitive drill enthusiasm. The loss of the football game in the Fall was more than counterbalanced by the manner in which our baseball team so overwhelmingly defeated '99. The competitive drill enthusiasm created a great longing on the part of certain Captains in our battalion to become promoters of a great financial enterprise which proved disastrous.

The annual exams. were now upon us, and our first year as college men had ended. One single, sad word more, my heart cannot forego. Brief as had

been the term of our existence as a class, it had been long enough for Death to wound us in our tenderest place. On January 4th, occurred the death of that excellent, learned, and accomplished man, our beloved President. That he was generally loved, was certain; and, to believe those who knew him intimately, he possessed almost every virtue. There are, here and there, a few individuals who make a strong and marked impression upon the little world about them. His was a life of honorable achievements in public and official duties. It is lawful to magnify the merits of the dead; but this is a privilege of which we need not avail ourselves, the unexaggerated description of this eminent man is sufficiently honorable.

Now see the Sopomore with head up high,
And swinging arms, and bustling tread, sweep by,
What wonderful, surprising change is made
In him, who has in college one year staid!"

Some of us arrived early to renew acquaintance with our old Professors and recitation rooms before we were drawn into the ever tightening meshes of Physics, Mechanism and Calculus; others were destined never to grace the halls of the Institute again. It was surprising to find so many architects applying for "advanced standing" in Chemistry.

One day the cherubic instructor of United States History read a notice to the effect that an election was being held in the corridor below, and that we were requested to vote after the lecture. The charge for the ballot box, the fight which followed, and the heroic rescue of a prominent member of the Faculty by the sturdy arms of the gymnasium instructor, will never be forgotten by those who witnessed the dreadful struggle.

The election of the "Technique" board was successfully accomplished without serious trouble, but with the customary rivalry and political factions headed by "Oom" Paul Brooks and others. This important work finished, nothing remained but to take our exams., and another year of this class was a thing of the past, and handed down to form another page in the history of this great institution.

"Of grave, sedate aspect the Junior walks,
Inured to thought, and seldom *vainly* talks."

And now we were Juniors; it seemed as if the time had been long in coming. No more were we to be called by that ever despised name, Lower Classmen."

Corporal Bailey now joined our ranks to travel the rugged and rocky path to a degree; but I have lately learned that he has again dropped by the way-tide, weary and footsore. Yet we may learn later from the Prophet, who will portray the future history of the class, whether he will yet reach the goal of his ambitions.

The Spanish War being over, S. B. Miller returned to the Institute and bombarded the class for the capture of the Presidency, relying upon the wave of popular feeling toward naval heroes, to pull the majority of votes. But his guns were manned by Spanish gunners and the shots fell short of their mark and our popular Second Marshal won in a walk.

After the semis came the preparation for Junior week. The "Prom." was a great social success, but in accordance with the reputation of the class, it drained the pockets of the committee, financially. The advent of our Relay Team caused a stir in athletics; this team, captained by a 1900 man with two others of the same class, easily defeated Dartmouth and beat Columbia in record time.

The coming out of *Technique* was breathlessly awaited. The demand for the book was so great that for two days we were unable to supply them fast enough and three editions were necessary. The introduction of the Minstrel Show marked a new epoch in Tech life, and a new source of income for the Athletic Association.

"At last we reached the summit of desire,
That height to which all college wights aspire."

As the Senior sits in his room thinking of the past, the dark cloud of obscurity and uncertainty which had hovered over him for three years, grows brighter and then suddenly breaks and reveals the sweetest of visions,—an S. B. in all the splendors of a royal crown. But, with this prize almost within his grasp, there still lies beyond in that ethereal future, that awful vision and hideous nightmare of five dollars a week and a room on Eliot Street.

After the Semis some decided to drop their theses until next year in order to avail themselves of more advanced ideas in their scientific researches.

The Tech Show was a greater success than that of last year, owing partly to the foresight of the management in cornering the egg market. This caused a great deal of inconvenience to Dr. Dewey, who had

bought egg futures, but was compelled to sell short, causing fluctuations on the poultry market.

The financial history of this class is hard to trace, as no accounts are published except such as the students wish to have made known. The origin of the class debt is, of course, to be traced to the excess of expenditures over receipts. Our honesty was all right, for our creditors were made fully acquainted with our pecuniary circumstances.

A deep and abiding conviction that the burden *must* be removed, that the last cent due must be paid, will accomplish wonders.

There is one comfort, at least—a man in debt has opportunities, that others lack, of *proving* to the world that he is honest. This we determined to do.

We started the last year with this liability but slightly reduced, and we became an object of charity. The musical clubs were induced to tender us a benefit for a slight pecuniary consideration and enough "dead heads" to fill the hall. This magnanimous act of the clubs greatly reduced the debt, and the everlasting thanks of the class are extended to their immortal manager.

Dr. Dewey's great financial head came also to the rescue. He thought the most obvious expedients which presented themselves were:

First. By borrowing money.

Second. By the issue of a paper circulation for the payment of debts, as in Russia.

Third. By both these methods combined.

Now the first method seemed impracticable for our credit was already low. The second, which was the issue of a paper circulation, could only be accomplished by drawing on the home fund by means of carefully-worded letters. This method was adopted, and a very happy ending has been made in this business.

It is the privilege of those who have suffered through our heedlessness to forgive even as they hope to be forgiven. We were not bored by constant reproaches, nor by hard and cruel treatment, but there was a sad lack of suitable care and a sad lack of judgment on our part.

Since that memorable September morning, four years have sped their flight. Through all the alternations of heat and frost, sunshine and shade, that marked each passing year; through all the vicissitudes of individual, social, and collegiate life, this class has

held its way. It is to signalize the completion of this first great cycle in its history that we meet here to-day.

Let us hope that Providence, who has guided us in our youth, will protect us in our maturity, till in His own good season, His designs shall have consummated, and our fate furnish another lesson to be studied by those who step into the places left vacant by us, and who seek instruction from the records of our virtues and our errors.

Mr. Ziegler:—

In our work at Technology we have always found it necessary in giving the performance of an engine to state its dimensions and the conditions under which the test was made. So now I feel that you would be unable to make a correct estimate of us were I not to give the statistics of the class. Let me now introduce to you Mr. Newitt Jackson Neall who will furnish this data.

Mr. Neall:—

As Mr. Neall spoke extempore, THE TECH can give but a partial list of the statistics presented. These are as follows:

Average age on June 1st, 1900, 22.5 years.

Average height, 5 ft., 9 $\frac{3}{4}$ ins. Total length of class, 1152 feet. Tallest man, Stone, 7 ft; shortest man, Cook, 4 ft., 7 $\frac{1}{2}$ ins.

Average weight, 62 lbs. (the low figure due to the fact that only 90 men sent in returns to this question). Total weight of class, 14.2 tons = 142 bales of hay. Gibbs is the fattest man, weighing 240 lbs.

Most difficult course, Course VI.

The least difficult course, not Course IX, but the one at Harvard. Course IX has made the most phenomenal progress, with 500 per cent increase in graduation over last year.

The densest subject at M. I. T., Paul Brooks.

The handsomest professor, 1st., Getty Lanza; 2nd., Harry Clifford.

Occupation after graduation: Most of the class will do somebody, although a couple would devoutly thank God; Davis will sleep, sleep, eat, sleep, go on eight busts, sleep, do another bust, more sleep, then work.

The favorite exercise: Brigham prefers sleeping; Gauss and several others, climbing stairs; Sears likes loafing, Collier, paying the Bursar; Sanders, falling down the spiral staircase in Rogers; MacMasters likes to study and Tweedy likes to eat.

The most serious deformities: Maxfield has bumps on his head; Glover has one leg too long; Brown is bald-headed; Seaver has a lack of intelligence; Leonard is generally dry; Collier has a pug nose; Fitch, his face; J. B. Conant is too honest; MacPherson is right-handed.

The specialties at Tech: Davis, getting his reports before his family did; Gauss, complaining to Dr. Tyler; Sears, mathematics; Hapgood, Y. M. C. A.; Stewart, avoiding work.

Queer experiences undergone: All have had queer experiences, except Reimer, who has had none, and Van Merrick, who has had them, but says no one will believe him.

The favorite song in first year at Tech: "Taps" from Freshman drill; 2nd year, "Give us a drink, Bartender"; 3rd year, "And we'll yell 'to Hell with Harvard,'" etc.; 4th year, "He'll need another occupation."

Most popular heroes: 1st, Captain Bigelow; 2nd, Admiral Dewey; 3rd, Corporal Bailey.

Expressions of the professors considered most witty: "A little learning is a dangerous thing, but a little ignorance is a d—— sight worse." — Sedgwick. "Will those who are absent please come forward and tell me so?" — Hoffman. "After we had ridden in a buckboard over rough country for twenty miles, we found two boxes of dynamite under the seat. The things that ought to happen never do." — Hoffman.

The expressions of the professors considered most stupid: "Gentlemen, please don't." — Lanza; Lingley thinks that any of Arlo's will do.

The sportiest man in the class: Schneller; Hapgood thinks there is no good sport.

The handsomest man: Rapp.

The brightest man: Chase, because of his hair; Mead, because he passed a condition in Free Hand.

Most popular man: Stewart.

Class grind: Suter.

Most modest man: Silverman, first; nearly everybody laid claim to this.

Most eccentric: Luyties and Bowditch.

Windiest man: Luyties and Rossmässler.

Greatest actress: H. H. Howe.

Laziest man: S. B. Miller.

Best athlete: MacMasters; Stratton thinks Hussey is.

Greatest man: Leonard, because he was his own political elevator.

Most prominent man: Sperry, as all Tech. men are likely to be.

Greatest jollier: N. J. Neall.

Mr. Ziegler:—

It is a pleasure for me to introduce to you Mr. Frederick Hosmer Cooke who will, I am sure, take the advice of James Russell Lowell and prophesy only that which he knows.

Mr. Cooke:—

CLASSMATES AND FRIENDS:—The present age is a wonderful one. By steam and electricity we have annihilated distance; we have brought New York and San Francisco within hearing distance, and we have rendered it possible to get news from Shanghai before the very events have happened. But more wonderful than the achievements of science were the achievements of magic in bygone days. I had that fact impressed very forcibly on my mind about three weeks ago. I was up in the fourth-year drawing room about the witching hour of twelve, when graveyards are supposed to yawn, because they are sleepy I suppose. I was all alone in that great building, where so many have worked and toiled; there was but one light, the incandescent lamp over my desk. Some deep-toned bell was just beating the first hour of twelve, when I heard a slight noise in the direction of Professor Swain's office. Suddenly the lights flashed into brilliancy all over the room, the "junk shop" was illuminated with red fire, and a strange figure appeared climbing over the transom of Professor Swain's office.

I looked, pinched myself, rubbed my eyes to dispel the illusion, but, sure as flunks are flunks, there appeared the figure of an old man, clad in flowing black robes embroidered with cabalistic signs, a tall pointed hat upon his aged head. "I am Merlin," he said, drawing himself up to his full height, "I, who have ruled the lightning, caused the winds to howl in demoniac glee, and the solid earth to tremble beneath my feet. Once every hundred years do I revisit this earth, to grant the request of the first mortal I shall meet. Thou art the first I have seen, speak forth, what shall I grant thee?" I replied, "Oh, all-powerful Merlin, ruler of the lightning and earthquake, grant me that I may surely get my degree in June." At this request he bowed his aged head on his breast, his eyes drooped in shame as he said, "Thou asketh too much, that boon is in the hands of men more

powerful than I, the Faculty of this institution of learning." Saddened, but not dismayed, I replied "Then, oh seer of the future, take me on a journey tonight, lead me to all parts of the globe, that I may see the state of my classmates twenty-five years hence." He silently bowed assent, and, bidding me hold tight to the edge of his robe, we walked toward the window which opened of itself before us, and floated out into the air.

It was strange, very strange. The night had disappeared completely, the sun was shining bright in the heavens, and as we floated past old Rogers building among the crowd of men sitting on the steps was not one that I knew. Onward we sailed. At the corner of Tremont and Boylston Streets the sound of clashing cymbals and thundering drums beat on my ears. A company of the Salvation Army was marching up the street in full regalia. A man who seemed strangely familiar was marching at their head. Who could it be? I listened; two bystanders were talking, and I heard one say, "Yes, that's Rennie, the great reformer, he has just been appointed Bishop to Africa." Along Tremont Street we hastened. Merlin led me into a building which I recognized as Keith's Theatre. We had been inside but a few minutes when a man came on the stage and began to tell a dialect story. He was telling about a *Swede* who had settled in Washington, and had an adventure with a ball. Where had I heard that story before? At last I recollected, looked again, and behold, 't was *Clary*, now one of the brightest stars on the vaudeville stage. I was about to leave when Merlin detained me, telling me that there was yet another. I waited; soon the strains of a familiar tune fell on my ears. I looked at the singer, and lo! there was Van Merrick singing a song about his desire to obscure his face. Merlin told me confidentially that Merrick had been disappointed in love, and in his desperation had taken to the stage and had never left it.

"Lead on, Merlin," said I. Sadly and silently Merlin and I turned away, but on the sidewalk a more pitiful sight met my eyes. A man of extraordinary height and in apparently very poor health was being pushed along in a rolling chair. Two bystanders on the other side of the street were talking; I heard one say, "See that fellow over there? He is dying by inches, but the doctor says he will live a hundred years." I looked with curiosity

at the man to whom they referred and saw no other than *Bill Stone*.

Rising through the air, we were almost immediately hovering over the metropolis of America. Down we sank until we were on a level with Brooklyn Bridge. There was an immense crowd of wildly gesticulating people on the bridge, a man clad in bathing attire stood on the rail. Suddenly he leaped into mid-air and dived head foremost toward the river. But, Horror of Horrors! a stout tugboat appeared right in the path of the falling man. He could not change his course, nor could the tug stop. With a crash he struck head foremost on the boat. I expected to see him crushed to a shapeless pulp, but no! he bored a hole through the boat with his head as neatly as an augur could have done it and disappeared into the waves. The tug filled and sank, her crew swam for the shore. Then there appeared from below the surface the man whose head had been hard enough to smash a strong tug to flinders, and I recognized none other than *Milton W. Hall*. With a smile he greeted the crew of the tug who were striking out for land, and I heard one of them say "Confound you Hall, that's the third progressive speed that you've spoiled this week, we can't patch that tug up again, you stove her hull all to pieces." The intrepid bridge jumper then replied, "I can't help it *Barney*, you always get in my way, you don't suppose I could stop for a little thing like that, do you?" Astonished and pleased at the fame-earning success of my class mate, I would have stayed longer, but Merlin said, "hasten, my time grows short." Onward we floated. We passed over a busy street, throngs of people crowded the walks. I looked in vain for a familiar face till finally a sign struck my eyes — "Architects, Rapp & Stewart, Designers and Contractors for the Hall of Fame." I flew in at the window, and saw the plans for the building. There, plain and full in letters of gold, above Washington, above Lincoln, above all the other names on the list stood *Walter Louis Rapp, Lewis Stewart*. I congratulated them mentally on their success, and was about to bid Merlin lead on, when down in the throng below appeared a man, his breast covered with medals, decorations, orders; his pockets bulged with certificates of membership to various orders. He evidently belonged to all organizations under the sun. I looked, rubbed my eyes, looked again, and recognized

Stanley Collamore Sears, who had not forgotten his Tech training, and was still foremost member of one thousand and one organizations, committees, etc.

Merlin touched my sleeve and bade me follow. Downward over the mighty Hudson we floated, passing the new bridge which spans the river. The bridge was nearly finished, a few fearless men far out in mid-air were driving rivets. Merlin and I drew nearer. A man was hanging by his knees industriously pounding a hot rivet. The beads of perspiration stood on his swarthy brow; far, far below him rolled the river. He was muttering savagely to himself. I heard him say, "I wonder why that fool of an engineer couldn't have made this a cantilever." That remark set a train of thought going, I looked more closely at him and saw *Tuck*, now transformed into a human spider. Onward Merlin and I passed; we were now over Sheepshead Bay race track. A race was in progress, the horses were coming down the stretch, one far in the lead. Among the crowd outside the gate was a man distinguished by a long, flowing brown beard. He was short in stature, and his beard came nearly to the ground. He was shouting, "Here you are gents, the only infallible elixir known to man, the only mixture warranted to grow a beard on any face, here you are!" I looked, and looked, and behold, 'twas *Steve Badlam*. I would have stayed and purchased some of the liquid, for I did mightily desire to have a beard as good as *Steve's*, but Merlin hastened me on. We swept through the air, and finally came over a large city.

A peculiarly sleepy influence seemed to pervade the air, so I knew right away it was Philadelphia. Far, far below, was a baseball diamond. The sounds of distant shouts came faintly to my ears. Down, down we sank, till I could see the faces of the multitude distinctly. Shouts of Slide! Slide! rent the air. A man of herculean build and close cropped hair was running for 2nd base with the speed and grace of a gazelle. Suddenly he slid, with all the impetuosity of a man-of-war coming into port. A vast cloud of dust arose, and out of its depths came a visage which I recognized as that of *Ingersoll Bowditch*, the cheery field slugger. As we passed Washington I distinctly saw *Belknap* sitting on the top of the monument, trying to prove that 1900 never had a class debt. The air grew hot and sultry,

Merlin motioned me to sink into a grove of giant trees. A hammock was swung between two of them, and in it lay a man, fast asleep. An empty glass lay on the ground beside him, a strong odor of mint julep pervaded the air. I was about to waken him when Merlin said, "Sh, let him sleep, he worked so hard at Tech. that he has been sleeping ever since." I peeped under his hat brim and saw *Rawson Collier*, a beautiful smile on his peaceful face. Wishing him pleasant dreams we again mounted into the blue heavens and hovered over Chicago. On Wabash Avenue there was a great parade, carriages loaded down with prosperous looking politicians were passing by. In one carriage sat an auburn-haired man who was evidently very popular, for at each corner a shout went up, "Hurrah for *Chase*, the only alderman in Chicago with roller skates." Trials of public life appeared to agree with *Franky*, for he was the most prosperous looking alderman I ever saw. Just around the corner was a large building bearing the sign, "Beauty Show. Beauties of all nations. G. E. Russell, proprietor." I wanted to go in and see some of Russell's beauties, but Merlin said his time grew short, so onward we hastened. On the next block a great crowd of children were listening to a man who was telling them how naughty it was for them to refuse to go through the broom-stick drill, and advising them to obey their teachers. It reminded me of a situation long ago at Tech when the Freshman class refused to drill, and there could be found but one man to win them over. I looked more closely at the great peacemaker and I recognized with certainty *Cliff Leonard*, the silver-tongued orator. Merlin was getting impatient at our long delay in Chicago, so onward we sped toward the setting sun. In the midst of the alkali plains a small town appeared. One building, or rather shanty, seemed to be a newspaper office. A flaming sign was on the door, "The Red Dog Razoo." I looked in at the window, and there sat *Fitch*, at once editor-in-chief, reporting staff, compositor and devil. Merlin told me confidentially that *Fitch* had worked *The Razoo* till it had equalled THE TECH in circulation, and was seriously contemplating suicide. Onward over the arid plains we sped. A prospector lay dying of thirst in the desert. I approached him and saw *Dorey*. He was saying, "Ah, if I could but get this sulphur back to Boston my fortune would be made." I spoke to Merlin, "Why does he want to

get that sulphur to Boston, matches are made in heaven." Merlin replied—"Yes — but *Moulton and Leach* are in Boston, and they made very good matches while still at Tech." Sadly I turned away. *Dorey* always was thirsty I knew, but I hated to see the poor fellow dying of thirst.

At last Merlin said, "Now must I leave you. I have shown you all I can." "Oh noble seer," said I, "cannot you show me my future?" The scene changed with startling rapidity. A bleak bare graveyard was before me. Merlin pointed to a stone — "Sacred to the memory of ——— not my name, oh, no not my name. With frenzied hands I beat against the stone in vain endeavor to blot out the horrid sight. At last, it yielded, sank down, and became a drawing board. Dimly things began to shape themselves into the old fourth-year drawing room. It was all a dream — such a peculiar dream — but the saying is, "Dreams run by contraries," and certainly this one must have done so, for I am certain that nothing but the most complete success awaits every member of 1900.

Mr. Ziegler: —

It has been said that the day of orators has passed but this conclusion is plainly wrong as we shall see, for although rare they are not all gone. As a fitting conclusion to these exercises I have now the honor of introducing Mr. Charles Van Merrick.

Mr. Van Merrick: —

The world is a great arena; one by one as mortals come to manhood they step down as gladiators of old to face and do battle with new and unforeseen dangers. Some fight with the cheers of hero worshippers ringing in their ears, spurning them on to greater heroism; others must find inspiration in their own hearts and minds; the manly sense of duty nobly done. The Tech man steps down to fight alone. With lofty purpose and untiring effort he carries on a hand-to-hand struggle with matter and the elements. Month after month, year after year, he plans, directs and struggles for the comfort, ease and safety of mankind. He is not always in the public eye. The results of his victories are so familiar as to pass almost unnoticed. The world becomes accustomed to the evidences of his conquests. His antagonists, the elements, mean more to him than mere sight or sound; they mean danger! danger to himself! danger to his fellow-beings. Heroic, unobserved, he

conquers the power of the wind, the pressure of the flood, the horror of fire. This constant combat with the perils which surround life makes inaccuracy seem to him a crime. He realizes the disasters which may follow from even slight mistakes. The Tech man must be honest or he is worse than false. He becomes a criminal, a murderer. The lives of hundreds depend upon his diligence and carefulness. He is a factor of safety in the world's great daily problems. The train which whirls you across the continent is no stronger than its weakest part; the floor which bears your weight is stable and firm only in so far as the architect is thoughtful and accurate. The Tech man's faithfulness to the trust he holds is every day becoming more and more appreciated. Intelligent men everywhere realize how completely the technical student is giving to the service of mankind his time, his strength, his brain, his very blood.

The technical man is in constant and actual contact with the practical issues of life; he is saved from the danger of selfish isolation; learning without experience leads to narrowness; the broad man, his mind expanded by work finds deep enjoyment in his sympathy with humanity. A human being to live aloof, apart, must be either a god or a demon. The Tech graduate is neither. He is a part of the world, a man.

Being so honest, so broad, the ideal Institute man is worthy of that high office — to be a friend. He will be the true friend, to whom flattery seems an idle waste of words; the friend whose steadfastness is so sure that men count on it in extremity. Already this quality is proved. When you bid him good-bye tomorrow, knowing that it may be years before you meet again, you will be confident that time, or distance, or circumstances cannot alter his friendship.

This self-respect does not prevent his full appreciation of the respect due to others. Self-esteem, conceit and arrogance are signs of weakness. A level-headed realization of capability is an element of manhood and power. A Tech man realizes all his capabilities and is rightly proud of his greatest talent — the ability to take care of himself. Trained for four years along a certain line he graduates the proud possessor of a trade or profession which is his very own. Friends and fortune may desert him but he knows he has the skill to do good work and the

pluck to reconquer the world. To become a master in his profession has entailed hard, faithful work. With that hard work has come courage; a courage that admits of no defeat; a fearlessness that crowds out all sorts of personal safety when duty calls. Duty has called the Tech man to places of greatest danger, and he has responded unflinchingly. The many examples of those who have died doing their duty inspires us.

In the Rocky Mountains a graduate of the course in mining started out to visit an unworked mine. The way was dangerous, a snow-storm seemed imminent. His companions begged him not to go. His duty lay before him; the company desired immediate information of the mine, and he started. Later in the day the horse he rode, half dead with fatigue, returned. When the storm abated his friends started up the ravine where they knew their comrade must have travelled. They found him at the top, five yards from the hut which was to have sheltered him for the night, buried under an avalanche of snow. Can you not see him struggling upward, the way becoming darker and more rugged, the snow deeper? Weary, cold, alone, he plunges forward with renewed vigor as he sees the hut. Courage! But a few more steps! He hears the rumbling of the thunder, a swirling, roaring, resistless rush grasps him, chokes him, crushes him.

Such dangers have engulfed those who have gone before. Does the cheek pale or the heart faint as the Tech man realizes what may be his lot? His heart grows hot with the desire to be himself as bold, as noble. Whether the world see and applaud, or he seem unregarded and forgotten he is full of determination at least to be worthy. Hurt by keen blows; wounded sorely and beaten now and again to his very knees, his spirit is still bold, his courage undaunted. He realizes upon him depends the fate of others; that if he fail, others must suffer. The sense of what he fights for gives strength to his arm. He gathers his forces, he rallies, he fights on to the end, true to his trust. He may fall at last overcome by the fierceness of the battle, but not for that is he conquered. He has won because he has been true to himself, because fighting in the service of God and humanity he has at every point so borne himself that all the world may point to him and say, "There was a man!"

Walker Memorial Gymnasium Subscription.

Class.	No. of Graduates.	Amount of Subscriptions.	
		Dec. 29, 1899.	June 1, 1900.
'68	14	\$1,850.00	\$1,850.00
'69	5	25.00	25.00
'70	10	1,260.00	2,260.00
'71	17	70.00	70.00
'72	12	100.00	100.00
'73	26	175.00	200.00
'74	18	85.00	130.00
'75	27	320.00	500.00
'76	43	150.00	150.00
'77	32	175.00	275.00
'78	19	2,750.00	2,750.00
'79	23	1,025.00	1,025.00
'80	8	10.00	60.00
'81	28	150.00	215.00
'82	24	235.00	240.00
'83	19	140.00	510.00
'84	36	800.00	1,150.00
'85	27	2,270.00	2,970.00
'86	59	400.00	835.00
'87	58	350.00	1,785.00
'88	77	500.00	1,425.00
'89	75	1,290.00	1,870.00
'90	102	1,015.00	1,045.00
'91	103	205.00	1,025.00
'92	133	675.00	875.00
'93	129	2,180.60	2,850.60
'94	138	297.50	655.50
'95	144	455.00	765.00
'96	188	85.00	210.00
'97	179	724.00	910.00
'98	199	623.00	793.00
'99	172	—	695.00
Walker Club,		600.00	600.00
Civil Engineering Society,		—	100.00
Former Instructor,		—	50.00
Total,		\$20,990.10	\$30,969.10

The Classes of '70, '78, '85 and '93 have already passed their allotment.

Walker Club Dinner.

The annual Walker Club Dinner took place Friday, May 18th, at Young's Hotel. A large majority of the members of the club were present, the company including, besides the undergraduates, three of the professors of Course IX. and several of the graduates. The speeches, which followed the dinner proper, were cleverly introduced by the toastmaster of the evening, Mr. Herbert Holmes Howe, 1900. Among the admirable toasts which were given, those of the professors and that of Mr. E. H. Davis, 1900, take first rank; Mr. Davis responded to the toast "How I Helped Make Technique." A little singing, and an excellent piano solo by Mr. Howe completed the entertainment.

Commencement Day.

The exercises of the graduation of the Class of 1900 took place on May 5th in Huntington Hall. The audience was large and the theses were well accepted. The theses were read in the following order:—

COURSE I.

Clinton Draper Thurber. "Experiments to determine the accuracy that may be attained with the Pitot tube in the measurement of the flow of water through pipes."

COURSE II.

Arthur Clarence Walworth, Jr. "An investigation of the friction of steam in elbows and bends."

COURSE III.

Stephen Badlam. "An investigation of the effect of annealing upon the physical properties and micro-structure of a low-carbon steel."

COURSE IV.

George Burdett Ford. "Design for a university library."

COURSE V.

Harry Martin Thayer. "The recovery of zinc from pyrite residues."

COURSE VI.

Leigh Shelton Keith. "A study of the wave forms in the three-wire generators of the Institute plant at Trinity Place."

COURSE VII.

Harold Sargent Conant. "A study in variation; taking certain features of the shell of the marine gastropod, *Purpura lapillus*."

COURSE VIII.

Grace Langford. "An investigation of the effect of dilution on the color of copper solution, and its relation to the dissociation theory."

COURSE IX.

Joseph Porter Draper. "A review of State Legislation since 1890 in regard to trusts."

COURSE X.

Stanley Gay Hyde Fitch. "The mercerization of cotton, with the addition of aluminates, silicates, glycerine and glucosides to the mercerization bath."

COURSE XI.

Charles Mussey Fosdick. "A plan for the disposal of the sewage of Fitchburg, Mass."

COURSE XIII.

Robert Coffin Simpson. "Collection and reduction of data for the powering of ships."

President Craft's address was as follows:—

THE CLASS OF 1900:—You have passed with us four years of faithful work as your degrees testify—four years of companionship with each other, as some society badges, some offices in class organizations, some remembrances of victories or defeats in team athletics and what is far better many close friendships testify.

The sum of all these is a certain quatum of solid acquirements, which you are going to use as tools with which to do your life's work, and a certain *esprit de corps* which you perhaps today call class-feeling, but which as you join an association of graduates in the East or West, will merge into a Tech. feeling. Today you belong to 1900; a momentous date! We have nearly finished the century together, and we may consider it an appropriate moment to make up our accounts, and I think our few last moments together can not be better spent than in considering how far the education you have received here will fit you for the far more important business of educating yourselves through the rest of your lives. I do not mean that you will henceforth do your work alone. You will have plenty of educators in the things and people surrounding you; but it is a slowly acquired and difficult art to learn from things, and one which has only been successfully practiced of late years—chiefly by men of science; while people, even if they have the will, do not often know the way to teach you. They will be chiefly guided by their own interests, not yours, and their lessons will not always be given in the same kindly spirit which I think you will be ready to say is characteristic of the teachers in this great professional school.

Some men will say that many practical things can not be taught, but I believe that with a good method almost anything can be taught. It will be objected that Plato did not teach his scholars to think and write like himself, that Goethe left no school. Yet I would like to see an attempt made by a great thinker or writer to do what is done everywhere by great artists, who teach that most unexplainable thing, artistic conception. We believe, and we practice here on the belief, that the art of composition in architecture can be taught, and the world is full of examples of great masters, who have had great scholars, when they possessed the rare gift of teaching. I prefer, however, in this brief talk not to enter

upon the consideration of any new field of untried and difficult experiment, but to pass your own work in review. You have mostly chosen occupations where the methods of teaching, although of recent date, are perfectly sure and successful. The old philosophy decreed that speculations regarding man's nature and destiny were the only subjects worthy of attention, but it made so little progress with the methods that we are not much farther advanced than in the days of Socrates. Modern science assumes that it is man's chief business to know everything that can be known, but cares little for knowledge that is not sure. In the quest for the exact and absolute truth she has invented methods of discovery and of control which have changed the whole aspect of human thought and in her scheme a place is found for every skilful and conscientious worker. Text books have multiplied till they show just what has been done and just what is wanted for the next step forward. Like the design of some great engineer, the scientific programme is put into the hands of thousands of workers for execution. Each one is assigned a place according to his talents and an appointed task; to do the thing known or to seek the unknown. In this latter sphere, the highest imagination and the most poetic fancy may find scope. You have learned that the discovery of a natural law is a work of imagination, but a trained imagination using sure methods and abhorring guess-work. Our lay brethren suppose that we believe nothing until we have completed every possible proof. That is not our method, we use modes of reasoning quite unfamiliar to them, but which we have found to be excellent guides toward the truth. We collect facts and then we propound a theory which tells how to find and arrange new facts which may support it or may kill it. We are not foolish enough to stop living and acting until the laws we live by are absolutely proved; we use our caution, our skill and experience to select the surest and most rational assemblage of facts that we can find at a given time, we test them by certain signs known to us in order to see if they are really coherent and in such a task empiricism and unskilled labor is worse than useless; but imagination is essential. Then when all is done as well as it can be done for the moment, we accept the law as a rule of conduct until we can get a better. Truly Faith is the evidence of things unseen!

It has been our duty and our practice to be quite open with you and to tell what we are sure we know and to confess that many things are beyond our knowledge. Each one of you according to your several tastes and abilities has learned to do some one thing well and intends to go out from here and practice his art; but what is of more value to you, you have been introduced, if only on the threshold, to new regions of scientific thought by men who have been your teachers and companions, who have gone farther than yourselves but have made no mystery about their methods and have taught you at least some of the basic principles by which for the first time in the history of the world continuous and unchecked progress has been made.

If I have been successful in describing some of the leading features of the education which you have received here, let me say a word regarding their bearing upon the much longer and more important task which will fill the years before you. All our records of graduates show that you are likely to remain more faithful to your training than the graduates of any other kind of professional school, be it law, medicine or divinity. More than nine-tenths of you will do some scientific work. You perhaps could not come back here at any given time and pass over again any of the test examinations which the diplomas handed to you to-day testify that you have passed successfully. You will have forgotten most of the dry facts which you have imbibed or crammed, but what will remain will be habits and methods of work and general principles. Some men of genius teach them to themselves or seem to get on without them; but you have done well to come to a school to learn them for the world in general made very little progress until they were taught and well taught in schools. The day when Liebig opened his laboratory at Giesen and taught students how to make original researches marked a new era in the history of thought. The art of assembling things together and making them do the right thing for you in order to solve some given problem is a most fascinating art.

He who has once mastered it and learned to love it will have a happy occupation for the rest of his life.

If I have explained rightly these scientific methods, you will agree that they also nurture the highest qualities of faith and imagination and subject them

to tests more immediate and sure than any other kind of training.

These claims for science are not empty words, as you will find when you join the great army of experts, some twenty to thirty thousand strong, in this country, the integrity of whose lives is shown by the integrity of their works; and none have done more than the graduates of the Massachusetts Institute of Technology to maintain a high standard of professional honor in this country.

And now in conclusion, let me speak for your teachers and say that you are a satisfactory set of men to teach. You made up your minds before you came here what you wanted to do and did it earnestly; you have been willing to take the work we gave you and have sometimes asked for more. You have recognized that we have your interests at heart and that our purpose was the same as yours, namely, to do all we could and do it in the right way. Most of you have come from homes where you have been taught to believe that the earnest responsibilities of life begin at the age of eighteen or earlier and not at twenty-two or later. It is not a bad thing to be born into circumstances that give you the advantage of good training but which do not permit idleness. The knowledge which is now your capital in business is a safe security. Opulence is not always hereditary in this country, and the Daughter of Fortune is too often named Misfortune, and so you are going away from us to scatter north and south, east and west in our great country, or perhaps South Africa and the Eastern Islands and you bear with you a reputation to sustain, that of the best type of American citizens and of the most honorable of our professions.

You know that you do not get away from our examinations when you leave this place, and that there is a book of record in our archives which I hope you will help us to keep well filled with the events of your lives. And I may say that there is no feature so satisfactory in our school work as turning to that book and finding evidences there that you have built up some substantial structure upon the basis of education which was solidly laid down here. Come back to us, then, as often as you can individually or by reports of your alumni meetings. Keep this school in your remembrance and help in after years to do for others any good thing which you feel it may have done for you.

Candidates for Degrees.

Candidates for degrees in the several departments : —

David Gustavus Abeel (I.), George Orlando Adams (V.), Elbert Grover Allen (II.), Harrison Everett Ashley (X.), Stephen Badlam, (III.), Reuben Wilfred Balcom (V.), Charles Edward Baldwin, A. B. (V.), James Edmund Barker (VI.), Charles Augustus Barton, Jr. (VI.), James Hervey Batcheller (III.), Robert Sherman Blair (VI.), Ingersoll Bowditch, A. B. (I.), Albert Billings Briggs (I.), Charles Calvin Briggs, Jr. (XIII.), Miles Elijah Brooks (I.), Paul Raymond Brooks (II.) Charles Hoyt Brown (X.), Clarence Clapp Brown (VI.), John Wesley Brown (V.), Stephen Pearson Brown (II.), Frederick Delano Buffum (II.), Edward Everett Bugbee (III.), Roy Gibson Burnham (II.), Karl Burroughs, (X.), Marion Louise Cade (V.), John Campbell (III.), Llewellyn Leopold Cayvan (V.), Walter Crane Chaffee (IV.), Walter Nathan Charles (I.), Robert Hodgen Clary (III.), Rudolph Julius Clausen (IV.), Percival Charles Clow (IV.), William Rawson Collier (VI.), Franklin Norton Conant (VI.), Harold Sargent Conant (VII.), John Bancroft Conant (VI.), Frederick Hosmer Cooke (I.), Walter Clark Dean (VI.), Paul Holmes Delano (I.), William Asbury Dorey (III.), Joseph Porter Draper (IX.), Francis Bird Dutton, A. B., (X.), Warren Adams Edson (II.), Samuel Bass Elbert (III.), Carleton Ellis (V.), Ethel Frances Fifield, A.B. (IV.), Stanley Gay Hyde Fitch (X.), George Burdett Ford, A.B. (IV.), Charles Mussey Fosdick (XI.), Gerald Frink (II.), William Howard Fulton (VI.), Edward Gerald Gallagher (VI.), Stephen Franklin Gardner (VI.), George Crocker Gibbs, 3d (I.), John Thomas Fiske Gladding (II.), Frederic Stanley Goodridge (II.), Stephen Minard Hall (VI.), Cyrus Howard Hapgood (VI.), Harry Macy Harps (I.), Garabed G. Heghinian, A.B. (XI.), Dean Hinman (I.), Tomokichi Hirokawa, B.S. (VI.), Charles Wentworth Hodsdon (II.), George Myron Holbrook (V.), Harris Greenwood Hooper (XIII.), Robert Milne Hopkins (VI.), Frank Nelson Horton, (II.), Herbert Holmes Howe (IX.), Herman Reynolds Hunt (XIII.), James Whitteley Hussey (XIII.), Charles Chaplin Johnson (X.), Daniel Stewart Johnson (III.), Henry Detrick Jouett (I.), Walter Roby Kattelle (IV.), Herbert Orestes Keay (II.), Leigh Shelton Keith (VI.), Arthur Isaac Kendall (VII.), William Alden Kingman (V.),

George Washington Knight (V.), Grace Langford (VIII.), Lewis Morse Lawrence (IV.), Robert Howland Leach (III.), Clifford Milton Leonard (I.), Rondel Lewis (V.), Edith Liliencrantz (IV.), Francis Church Lincoln (III.), Robert Ross Lingley (II.), Frank William Littlefield (III.), Homer Littlefield (VI.), Francis Henry McCrudden (V.), Francis Xavier McGowan (II.), Sumner Marshall Manley (II.), Daniel Ellwood Maxfield (II.), Arthur Clarke Melcher (V.), Charles Van Merrick (IV.), Albert Sidney Merrill (X.), George Barrell Moody (XIII.), Harold Loomis Morgan (VI.), Walter Augustus Moulton (III.), Newitt Jackson Neall (VI.), Edward North, 2d. (III), Harry Edmund Osgood (II.), Isaac Osgood (II.), Horace Whitcomb Oxnard (I.), Charles Edward Paul (II.), Arthur Stearns Peck (VIII.), Thomas Doane Perry, A.B. (II.), William Gardner Pigeon (IV.), Edmond Henry Pitcher (II.), Howard Clark Plummer (III.), John Lewis Porter (XI.), Paul Leon Price, Ph.M. (IV.), William Proudman Rand (IV.), Walter Louis Rapp (IV.), Arville C. Redman (I.), Arthur Adams Reimer (I.), Chester Augustus Richardson (I.), Philip Franklin Ripley, A.B. (V.), Robert Parker Roberts (III.), George Edmond Russell (I.), Warren Willard Sanders (V.), Albert George Anton Schmidt (II.), George Otto Schneller (II.), Lewen Firth Searle (I.), Kenneth Seaver (I.), Harry Tilton Shapley (X.), Charles Edwin Sherman (IV.), Mortimer Silverman (VI.), Robert Coffin Simpson (XIII.), Charles Edward Smith (I.), Lawrence Southwick Smith (II.), Frederick Willis Snow (III.), Frederic Willard Southworth (IV.), Marcy Leavenworth Sperry (II.), Herbert Richardson Stearns (I.), William Leonard Stevens (III.), Willard Wilberforce Stone (I.), Charles Heywood Stratton (IV.), Carl Frederick Suhr (II.), Henry Howard Sullivan (II.), Theodore William Steidemann (IV.), Ralph Stevens (III.), Lewis Stewart (IV.), Russell Suter (I.), Harry Martin Thayer (V.), Clinton Draper Thurber (I.), Percival Edward True (X.), Theodore Calvin Tuck (I.), Warren Chamberlain Tudbury (I.), George Augustus Tweedy (III.), Emil Frederick Vogel (I.), Clarence Howard Walker (II.), Frank Dinsmore Warren (II.), Richard Waistcoat (I.), William Henry Wedlock (I.), Irving Chambers Weeks (IX.), Arthur Burr White (I.), Frederick Whitefield Witherell (XI.), Percy Rolfe Ziegler (II.), Morgan Barney (XIII.), John Van Derveer Beekman, Jr. (IV.),

Henry Matthias Brock, A. B. (VIII.), Aurin Moody Chase, B. S. (II.), Edward Hatton Davis (IX.), Lewis Emery, 3d (III.), Carl Friedrich Gauss (IX.), Louis Nelson Gowell (IV.), Milton Weston Hall (VII.), Bertram Cornelius Hopeman (IV.), William Baldwin Hough (II.), Herbert Austin Macpherson (XIII.), George Houk Mead, B. L. (X.), Morton C. Mott-Smith (VI.), James Alfred Patch (X.), Thomas Edward Penard (VI.), Ralph Root (III.), Louis William Shumaker (VI.), Arthur Clarence Walworth (II.), Walter Cummings Whitney (I.), William Isaac Wyman (II.)

Candidates awarded the degree of Bachelor of Science during the year 1899-1900:

Russell Gilpin (II.), Arthur Little Hamilton (III.), Edward Herbert (VI.), Owen Lewis Leonard (V.), Albert Franklin Nathan, Jr. (X.)

N. E. I. P. A.

The nineteenth annual meeting of the New England Intercollegiate Press Association was held at the Copley Square Hotel on Monday, May 28. The afternoon session was devoted to the reading of papers, followed by discussion and to the election of officers for the ensuing year, as follows:—President, Bollety Bowdoin; Secretary-Treasurer, Hartman Trinity; Vice President, Miss Sherman, Wellesley; Member Executive Committee, Hopkins, Dartmouth. In the evening the members met at the banquet table. The following colleges sent representatives:—Amherst, Bowdoin, Dartmouth, M. I. T., Mount Holyoke, Trinity, University of Maine, University of Vermont, Wellesley and Wesleyan. THE TECH was represented by Messrs. Brooks, Brigham and Fitch.

M. I. T. Track Team.

The Track Team sat for its picture at Purdy's on Saturday, May 26th. The annual election of the captain took place and R. L. Frost, 1902, was chosen to lead the team next year. Frost is faithful and conscientious in his training and should be a success in his new position.

Forrest W. Beale.

WHEREAS: Our Heavenly Father in His wisdom and love hath seen fit to take from us our friend and fellow classmate, Forrest Wilbur Beale,

RESOLVED: That we, the Class of 1902, Massachusetts Institute of Technology, express our esteem for him and the great loss the class sustains at his departure; and that we extend our deepest sympathy to the mother from whom he is removed. Further be it

RESOLVED: That copies of these resolutions be sent to his home, spread upon the minutes of the Class and published in THE TECH.

Executive Committee for the Class of 1902.

Harold S. Currier.

WHEREAS, It has been the will of our Merciful Father to call from our companionship in Life's School our loved comrade, Harold S. Currier, to promote him to the infinitely grander School; be it

RESOLVED, That we thus attempt to express our heartfelt sorrow for the loss of one whom we have learned to love and respect and whom we have found at all times to be cheerful, faithful, earnest and true,

RESOLVED, That we extend to the parents of the deceased our deepest and most sincere sympathy in their bereavement and commend them for consolation to the Great Comforter whose mercy and loving kindness are infinite,

RESOLVED, That a copy of these resolutions be forwarded to the parents of the deceased, and that a copy be spread upon the minutes of the meeting.

Executive Committee for the Class of 1903.

Technique, 1902.

The make up of the 1902 *Technique* Board has been decided upon with C. A. Sawyer, Jr., Editor-in-Chief, A. E. Lombard, Business Manager, and R. V. B. Blaisdell, Chief Artistic Editor. Communications may be addressed to C. A. Sawyer, Jr., 531 Massachusetts Ave., Boston, by whom they will be forwarded to the editors if desired.

This Week.

Columbia Theatre:—"The Belle of New York;"
Castle Square Theatre:—"The White Squadron;"
Tremont Theatre, closed; Boston Museum, closed;
Hollis street closed.

Course IV. Baseball.



CAPT. FRUIT.

On Thursday, May 24th, the ball game between the West and East Sides of the Sophomore Course IV. Drawing Room was held. The game lasted seven innings and was so remarkable a one that THE TECH feels justified in presenting the portraits of the captains of the respective teams. The frost indicated by the score of 23 to 9 was due mostly to the ice handed out by Wood, the pitcher of the West Side. The notable plays were Goldenburg's sensational muff accompanied with his maximum throw half way across the diamond, Blaisdell's base hit and run to 1st with its windmill suggestiveness, and last but not least the general efficiency of Hunter due to his base ball suit. The game was umpired by Adams and the umpiring was a magnificent, though footless, attempt to give the game to the East Side, to which he incidentally belonged. The batting strength of the West Side was distinctly superior to that of its opponent and the only home run was made by Greeley, who knocked a grounder through three men. Nichols and Wood tied for the largest number of runs, which was six. For the East Side, Fruit as pitcher, Bordman on 1st, MacDonnell as catcher were quite as ornamental as useful, while for the other side Vaughan, McNaughton, and Pember were especially picturesque. Matteosian succeeded in giving the spectator the impression that while the game was not a lost art it was next thing to it, and Capt. Bilyea's work as short-stop consisted principally in guying the umpire.

The line-up was as follows:

EAST SIDE.	WEST SIDE.
MacDonnell, c.	Vaughan, c.



CAPT. BILYEA.

Fruit, p. (Capt.)
Bordman, 1st.
Blaisdell, 2nd.
Goldenburg, 3rd.
Hunter, c.f.
Matteosian, l.f.

Wood, p.
McNaughton, 1st.
Pember, 2nd.
Greeley, 3rd
Bilyea, s.s. (Capt.)
Nichols, l.f.

Seven Innings, score 23-9. Umpires, Adams and Bartlett.

Hare and Hounds Run.

The Handicap Run of the Hare and Hounds Club was held Saturday, May 26, from Wellesley Hills over a varied course of slightly less than eight miles.

Captain Stockman, '01, won the time prize from scratch in a remarkably fast race, and Dearden, '01, and Sears, '00, covered the course at a strong pace, which proved too much for the men with the small handicaps. Among the lower class men Williston, '02, and Peaslee, '03, made the best showing.

Pulsifer, '03, and Stiles, '03, ran a good race from the limit mark and held the lead the whole distance, Pulsifer making the better run at the finish. Williston, '02, and Peaslee, '03, and Jewett, '03, ran a hard race from the five minute mark and had nearly caught the limit men at the finish. Williston won third by his superior strength, but Peaslee forced him to make the hardest finish of the day to do it.

That the handicapping was well done is shown by the fact that of fourteen starters four finished within fifty seconds and nine within three minutes and a half. The order at the finish was as follows:

	Handicap.	Actual time.
1.	H. B. Pulsifer, '03,	8 min. 59m. 22s.
2.	H. A. Stiles, '03,	8 " 59m. 33s.
3.	W. H. Williston, '02,	5 " 56m. 59s.
4.	H. F. Peaslee, '03,	5 " 57m. 10s.
5.	K. D. Jewett, '03,	5 " 58m. 33s.
6.	O. S. Stockman, '01,	scratch 53m. 34s.
7.	S. C. Sears, '00,	1½ min. 55m. 53s.
8.	C. M. Dearden, '01,	½ " 55m. 29s.
9.	R. W. Balcom, '00,	3 " 58m. 10s.
10.	P. H. Worcester, '02,	3½ " 59m. 35s.

The other men finished in order, C. A. Richardson, '00, (3 minutes), W. P. R. Pember, '02, (1½ minutes).

Worcester Meet.

On May 19th the Track Team competed at the Annual Meet of the New England Inter-collegiate Athletic Association held at Worcester. Although the showing, $11\frac{2}{3}$ points made by the team, was practically the same as that made last year, 11 points, the points were so evenly divided among the first four colleges that M. I. T. places fifth, which is one higher than we stood in the summary last year. The fact that of the men who went up not one graduates this year gives a very hopeful outlook for next year.

In the short dash events, M. I. T. did not qualify for the finals although Rowe ran second in his heat of the 220-yard dash. The first points came Tech's way when Frost ran second to John Bray in the mile run. Frost ran a magnificent race; he showed splendid judgment both in sizing up his field and in using his strength and displayed quantities of courage in beating Hawley of Amherst for second place after a heart-breaking struggle for the last 50 yards.

Green in the half-mile did well and gained valuable experience that should stand him in good stead next year. In the two-mile Stockman ran with excellent judgment. First and second places were out of the question with Dave Hall and John Bray in the race. The struggle for third place was a hard one and Stockman was one of the factors until the last moment. The weight men suffered greatly from standing around in the cold rain and did not do themselves justice. In the discus Winchester did not reach the mark he set at the class game by five feet and failed to place.

In the hurdles none of the men, Calley, Brown or Pope were up to their usual standard. Captain Baxter with two Williams men tied at 5 feet 9 inches in the high jump. In the try at this height Baxter slipped twice and just missed clearing the bar. The points were divided and Tech got 3. The pole

vault went to Squires of Williams and six men, including Baxter, tied for second place and M. I. T. got $\frac{2}{3}$ of a point on the division. An account of the bicycle race is given in another column.

Ray Murray Breaks Two-Mile Bicycle Record.

The N. E. I. A. A. two-mile bicycle race was held at Charles River Park, Monday morning, May 20th, and was won by Ray Murray, '01, in 4m., 36 $\frac{4}{5}$ s.

Murray and Driscoll, '02, represented Tech in the first heat, setting the pace alternately until the last lap, when they dropped to second and third places. In the sprint for the tape, Murray led by about 20 yards, holding it to the finish. Driscoll did not start his sprint until Wells, of Williams, and Brown, of Brown, had shot past him too far to be headed.

Eveland, '01, and Carr, '01, rode for Tech in the second heat, and, although riding a hard race, were beaten out in the final sprint, Lynch, of Brown, winning in slow time. Six men lined up for the final with Murray on the pole. The race was paced by J. F. Moran, amateur two-mile champion of America. At the start, Murray caught the pace-maker with Wells, of Williams, behind him. The pace was so great that at the third lap, three of the six men had dropped out. At the last quarter Murray let out his wonderful sprint, beating Wells, of Williams, by about 20 yards, Brown, of Brown, finishing close behind Wells. The time 4.36 $\frac{4}{5}$ breaks the former N. E. I. A. A. record held by Murray, by more than 40 seconds.

The summary:

TWO-MILE BICYCLE RACE.—First Heat.—Won by Ray Murray, '01, M. I. T.; second, B. L. Wells, Williams; third, H. E. Brown, Brown. Time: 4m., 55 3-5s.

Second Heat.—Won by C. P. Lynch, Brown; second, D. Ward, Williams; third, J. A. Wales, Trinity. Time: 5m., 5 2-5s.

Final Heat.—Won by Ray Murray, M. I. T.; second, B. L. Wells, Williams; third, H. E. Brown, Brown. Time: 4m., 36 4-5s.

After resting from the N. E. I. A. A. races, Murray attempted to lower the record he had just made, behind motor pace. After circling the track a few times the motor tandem made a flying start with Murray on behind.

The tandem hit up a faster pace after the first mile, and was just rounding into the home stretch, on the last lap of the two miles, when its chain broke. Murray, being unable to stop quickly enough, hit the rear wheel of the tandem and was thrown over the handle-bars for a distance of fifteen feet upon the cement track. He pluckily picked himself up, ran back and remounted his wheel, which had been uninjured, and finished the race in 4m. and 17s., which breaks his previous record. Had he not fallen it is estimated that Murray would have done the two miles in the neighborhood of 3m. and 30s.

Baseball. 1903, 6—1902, 5.

On Friday afternoon, May 18th, the Freshmen defeated the Sophomores by the score of 6-5, at the South End grounds. The game was exceedingly disappointing from a baseball point of view, as the rainy weather and wet grounds made good playing out of the question. 1903 owes its victory to timely hitting, and to the inability of 1902 to hit Winchester, who pitched a very steady game.

In the first half of the second inning, Pond reached first on an error by Gray, stole second and third, and scored on McCarthy's grounder to Nettleton. No more scoring was done until the last of the fourth, when six hits were made off Pond, including a double and a triple, enabling 1903 to score four runs. Howes led off with a double to left and scored on Nettleton's triple, Nettleton in turn going in on Cheney's single over Pond; Pembroke then struck out and Helmick flew to Fish. Winchester's single sent Cheney home, and singles by Foster and Langley let Winchester in. Gray was thrown out at first by Chapman making the third out. Gardner opened the

fifth by flying to Nettleton, and Franklin to Howes. With two out Fish reached first on Cheney's error and stole second. Howe's error of Sawyer's fly advanced Fish to third. Gannett drew his base. A passed ball by Langley let in Fish and Sawyer, and Pond's single brought in Gannett. Pond made the last out in trying to steal second. In the seventh inning with one out, Gannett drew his base, stole second and scored on Pond's single. Pond was thrown out at second and Chapman struck out. Langley opened the next inning for the Freshmen by a single and stole second. Gray reached first on Patch's error and Langley third. Howes and Nettleton walked, Langley scoring. Cheney struck out and Pembroke flew to Franklin. Gray then scored on Helmick's single and Winchester closed the inning by a drive to Sawyer.

The score:—

	1902.					
	AB.	BH.	PO.	A.	E.	
Franklin, m.	5	1	3	0	0	
Fish, l.	5	1	1	0	0	
Sawyer, 2nd	4	3	3	1	1	
Gannett, c.	2	0	5	1	0	
Pond, p.	4	2	0	3	0	
Chapman, 3rd	3	0	1	2	0	
McCarthy, 1st	2	0	7	0	0	
Patch, s. s.	1	0	1	1	2	
Gardner, r.	4	0	0	0	0	
Totals.	30	7	21	8	3	

	1903.					
	AB.	BH.	PO.	A.	E.	
Langley, c.	4	2	10	3	1	
Gray, s. s.	4	1	3	0	1	
Howes, m.	3	1	3	1	1	
Nettleton, 1st	3	1	6	0	0	
Cheney, 2nd	4	2	1	2	1	
Pembroke, r.	4	0	0	1	0	
Helmick, 3rd	3	1	1	0	0	
Winchester, p.	4	1	0	2	0	
Foster, l.	4	2	0	0	0	
Totals.	34	11	24	9	4	
1903	0	0	0	4	0	2—6
1902	0	1	0	3	0	1—5

Runs made by—Langley, Gray, Fish, Sawyer, Cheney, Gannett (2), Pond, Winchester, Howes, Nettleton. Two-base hit—Howes. Three-base hit—Nettleton. Stolen bases—Sawyer (5), Pond (2), Fish (2), Cheney, Langley. Base on balls—Off Winchester (8), off Pond (3). Struck out—Howes (2), Franklin (2), Chapman (2), Gardner (2), Cheney, Pembroke, Winchester, Fish, Gannett, McCarthy, Patch. Passed balls—Langley (2), Gannett. Umpire—Mr. Myles S. Sherrill.



'82. Harry G. Manning is at present in Chicago, superintending the completion of a large new plant for the Simonds Manufacturing Co.

'83. Frank E. Davis is with the spring wire department of the American Steel & Wire Co.

'85. Heywood Cochran is temporarily in the office of the Lorain Steel Co. at Johnstown, Pa.

'85. Tracy Lyon, II., has been recently made general superintendent of the Chicago Great Western Railway.

'86. Mr. H. B. Merriam has been abroad for some months on business for the Sims-Dudley Defence Co., with which he is connected.

'86. Mr. A. Vielé has opened an office in Schenectady, N. Y., as consulting civil and hydraulic engineer.

'87. Charles A. Barton is at present with the Canadian General Electric Co. in Peterboro, Canada.

'88. Guy W. Currier of Lawrence is a member of the Mass. Senate.

'88. Benjamin C. Lockett, recently of the firm of Smith, Hogg & Gardner, New York, has formed a copartnership with Charles G. Taylor, of the same city, for handling fine cotton fabrics.

'89. John Lawrence Manson is now a St. Louis partner of Shepley, Rutan & Coolidge.

'89. George F. Russell is superintendent in charge of the Russell Mill, operated by the International Paper Co. at Lawrence, Mass.

'90. George W. Fuller has opened an

office as consulting expert in water purification and sewage disposal at 220 Broadway, New York.

'91. H. W. Jordan has recently left the Solvay Process Co., and is now manager of the Bowker Chemical Co.'s Works at Elizabeth, N. J.

'91. Frank H. Burton is chief draughtsman, Army Transport Service, Army Building.

'93. Frederic P. Simonds is a member of the firm of Stratton & Simonds, architects, 52 Kilby Street, Boston.

'93. George L. Walker recently delivered a course of lectures on sanitation at the Teachers' College, Columbia University, N. Y.

'94. B. S. Harrison has opened an office for himself as architect at Lacrosse, Wis.

'95. John Dyer, Jr., is in the firm of Denniston & Dyer, building and contracting business.

'95. Clifford B. Sanborn has opened a law office in the Niles Building, Boston.

'96. William H. McAlpine has been appointed hydrographer in the U. S. Navy on U. S. Steamship *Ranger* connected with the Mare Island Navy Yard.

'96. George E. Merryweather is in Paris representing the Brown and Sharpe Manufacturing Co. at the exposition.

'97. William K. Fairbanks acted as representative of the Clinton Wire Cloth Co. at the National Export Exposition, Phila.

'97. W. O. Sawtelle is teaching mathematics and physics in the Bangor High School.

'98. W. L. Butcher is now in the Engineering Department of the Mass. State Board of Health.

'98. C. E. Le Moyne is at Idaho City, Idaho, with the Boston and Idaho Gold Dredging Co., working with a new process of mining placer gold.

Architectural Society Dinner.

The annual dinner of the Architectural Society was held Thursday, May 17th, in the private dining-room of the United States Hotel. Covers were laid for sixty, but about forty were present. The tables, arranged in a hollow square, were prettily laid and beside each cover was a neat menu card and a white carnation. After the wants of the inner man had been fully satisfied by the excellent dinner, President E. F. Lawrence as toast-master introduced Mr. S. W. Mead, who told some of his experiences in Paris during his study there. Mr. Mead's talk was followed by a musical selection by a quartette from the Society, after which President Lawrence called on Messrs. Ford, Buys, L. M. Lawrence, Van Merrick and Rapp. Their talks were mostly reminiscent and in the line of advice to the younger members of the society. L. M. Lawrence, the former president, gave a clever history, showing some of the members in a humorous light. These addresses were supplemented at intervals by musical numbers. The "Medicine Man" solos of Van Merrick and Derby were repeated and well encored, Messrs. Fruit and H. L. Walker rendered a mandolin and guitar duet, and L. S. Butler played several violin selections which were well received. The regular toasts were followed by impromptu speeches and stories, after which a rousing Tech yell was given as a send-off for the graduating members and a fitting close of one of the most enjoyable of the Architectural Society Dinners.

F. H. Howland.

Mr. F. H. Howland, M. I. T., '93, who is representing the *Providence Journal* in South Africa, has been engaged to take Julian Ralph's place on the staff of the *London Daily Mail* with Lord Roberts' column. Mr. Howland began his journalistic work on THE TECH and was the Editor-in-Chief during 1891.

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"Phono-Electric" Wire.

Up to the present time hard-drawn copper and composite wire of copper and steel have been the main reliance of engineers, but the constant breaking of trolley, telephone and telegraph lines, and the consequent interruption of service, has caused the engineer to realize more and more the importance of having a wire conductor, able to withstand all sorts of trying conditions, to endure extraordinary strains and to prove absolutely trustworthy under all conditions.

In this connection engineers are showing great interest in a new wire, called "Phono-Electric," manufactured by the Bridgeport Brass Co.

The manufacturers claim that "Phono-Electric" wire is perfectly homogeneous both in its mechanical and molecular structure, and does not depend upon a hardened skin for its strength, as do other drawn wires. A series of tests were made on this point by removing successive strata from the surface of "Phono-Electric" wire, and its tensile strength was found to be uniform throughout its whole diameter.

Hard-drawn copper wire was subjected to the same treatment and it was found that, once the skin is removed or injured in any way, the strength of the wire is reduced to that of ordinary soft copper.

This perfect homogeneity of "Phono-Electric" gives it a tensile strength for the various sizes of wire from 40 to 45 per cent greater than that of hard-drawn copper-wire. It is tough as mild steel, vastly more durable and four times as good a conductor.

Equally important with tensile strength in a wire is the power of enduring severe strains without taking a permanent stretch, thereby weakening the wire for future emergencies. A set of comparative tests on this point showed "Phono-Electric" wire to have an elastic limit 40 per cent greater than that of hard-drawn copper wire.

The torsional strength of "Phono-Electric" wire is well shown from the fact that a No. 14 "Phono-Electric" wire stood 120 turns in six inches, while hard-drawn copper wire of the same size and length broke at 47 turns.

In electric railway work, especially, the trolley wire comes in for very hard service. At turnouts it often comes in for hard knocks from the trolley, pounding, wrenching and occasional vicious arcs.

After a hard-drawn copper wire is exposed to the arcing of a trolley wheel, its hardened skin is destroyed and the weakened wire rapidly succumbs.

"Phono-Electric" wire is free from this serious difficulty, for it does not maintain an arc readily, and there is nothing about it to anneal. Its fusing point is high, and it is free from constituents easily vaporized, hence does not furnish enough metallic vapor to keep an arc going.

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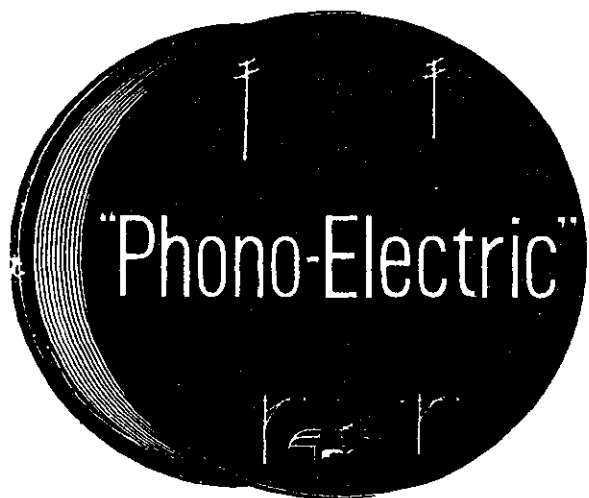
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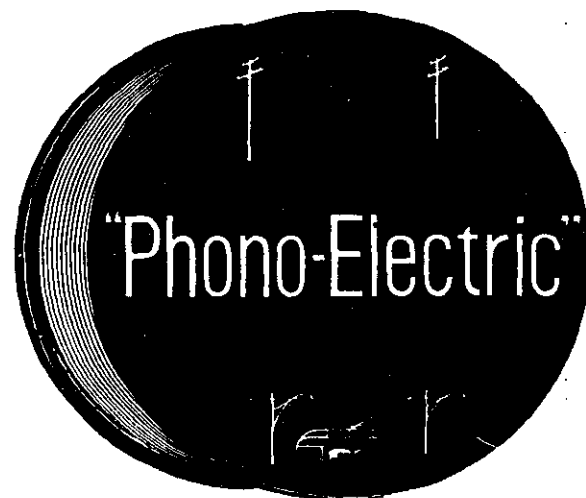
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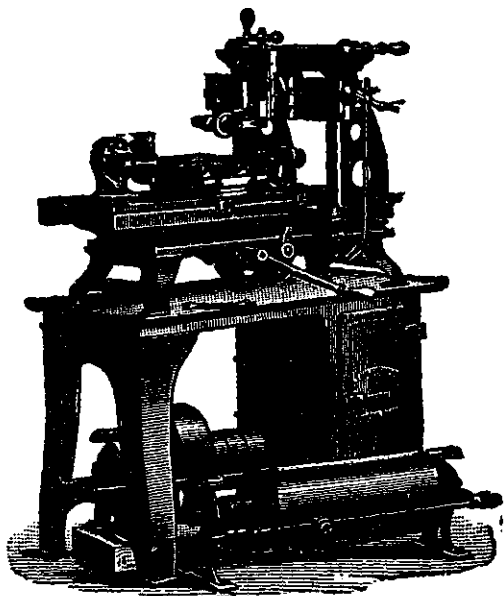
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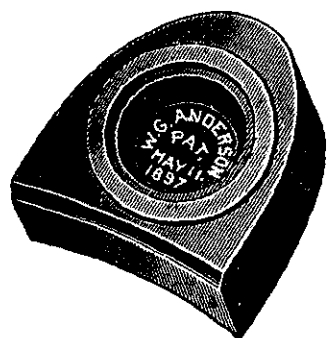
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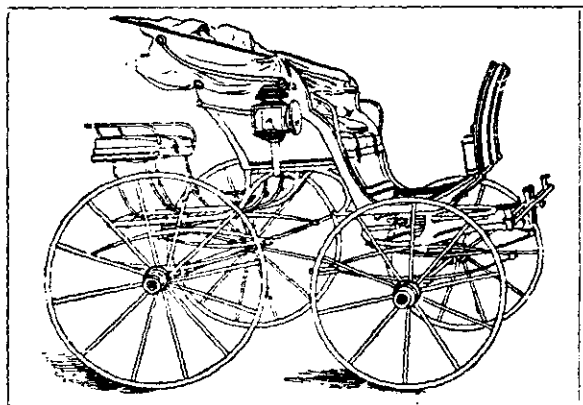
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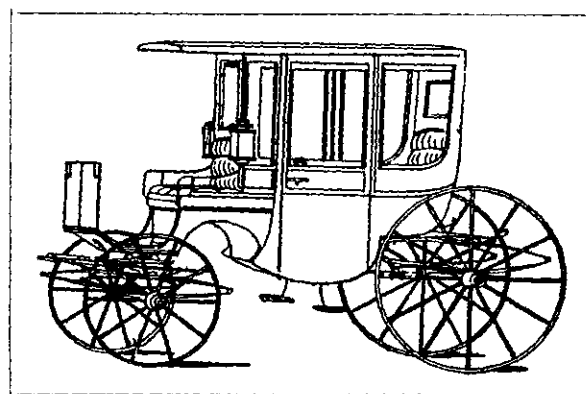
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